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## Housing wealth inequalities across occupational classes: a comparison of European housing wealth accumulation regimes

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# Housing wealth inequalities across occupational classes: a comparison of European housing wealth accumulation regimes

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*Abstract: Housing wealth is currently the largest source of wealth for many households, but we know little about the distribution of housing wealth, or about the mechanisms through which it reinforces or mitigates other inequalities. This is surprising, since recent research assumes that homeownership is increasingly central to our understanding of how welfare states redistribute life chances. Government-sponsored homeownership expansion programs, and housing finance liberalisation have influenced the distribution of housing wealth. This paper describes housing wealth inequality outcomes for two birth cohorts aged 50 years or over, grouped according to occupational class background. The analysis is conducted across 16 European countries with divergent welfare states and housing finance systems, using the fourth wave of the Survey of Health, Aging and Retirement in Europe (SHARE) (2011/2012). Our results suggest that the expansion of homeownership has partially reduced tenure inequalities between different occupational classes. However, we find that rising homeownership rates have also resulted in more unequal distributions of housing wealth, as an increasing number of 'marginal' owners are drawn into the edges of homeownership. Such a pattern is typical of housing wealth accumulation regimes with a market-based provision of housing, but not of regimes with a less marketised system of housing provision.*

Keywords: homeownership, housing wealth, SHARE, stratification, welfare state.

## Introduction

Between the end of World War II (WWII) and the first decade of the 21<sup>st</sup> century, two major trends in European housing systems have influenced the accumulation and distribution of housing wealth, namely (1) the expansion of homeownership and (2) the liberalisation of housing finance. From the 1960's onwards, homeownership rates increased in many Western-European welfare states. This expansion of homeownership was caused by the influx of younger households with middle and lower incomes, in particular from lower occupational classes (Angelini, Laferrère, & Weber, 2013). Many European welfare states promoted homeownership, e.g. through earmarked housing saving schemes or privatisation of social housing (Atterhög & Song, 2009; Forrest & Murie, 1988).. Since the 1980's, further increases in homeownership followed the liberalisation of housing finance. Mortgage securitisation and eased capital restrictions led to increasing loan-to-income ratios and loan-to-value ratios, which allowed more low-income households to enter this tenure. There is however large international variation in the organisation of mortgage markets. As a result of divergent expansion and liberalisation policies, homeownership rates vastly differ between European countries. In 2011, 71% of Europeans lived in homeownership (Eurostat, 2013). The lowest rate is found in Switzerland (43%), the highest in Estonia (96%). Since the 1980's, homeownership rates have increased by at least ten percentage points in almost all countries (Dol & Haffner, 2010). At the same time, the liberalisation of housing finance is believed to have led to increasing housing consumption, house price inflation and more volatile house price developments (OECD, 2014b). Rising house prices impact on housing wealth inequality by (1) generating capital gains (losses) for housing market insiders who bought at the right (wrong) location at the right (wrong) time, and (2) more restricted access to homeownership for lower occupational classes due to higher housing costs. To better understand the partly conflicting results of expansion and liberalisation processes for different social groups, we address the following research question: How is housing wealth distributed over occupational classes across European countries, and how did this

distribution change between two birth cohorts of homeowners that were differently affected by expansion and liberalisation?

We argue that with the expansion of homeownership and the liberalisation of housing finance, two 'edges of homeownership' have shifted. The first edge we identify is the boundary between tenants and homeowners. In the past, it may have been sufficient to look at the expansion of homeownership to middle and lower social classes to investigate a 'shifting edge of homeownership'. With the proliferation and diversification of homeownership, the first edge arguably became more diffuse. Homeownership in lower occupational classes is more precarious than 'mainstream homeownership', however. Such homeowners are found to accumulate less housing wealth (i.e. have larger debts), fall out of this tenure more often and own houses of lower quality (Smith, Searle, & Cook, 2009). Thus, it is not tenure status as such, but *housing wealth* that better captures one's socio-economic position. Therefore, it is increasingly important to look at a second edge of homeownership. The second edge of homeownership represents the boundary between homeowners with different amounts of housing wealth, in particular in later life. The most extreme case can be found when advanced mortgage products, like interest-only mortgages allow people to acquire property rights without actually accumulation housing wealth.

This paper investigates the net housing wealth distribution of two birth cohorts in 16 European countries, in order to assess how these edges have shifted, became more diffused and how consequent inequalities evolved over time. Net housing wealth is defined as the current market value of a dwelling (as indicated by the owner), minus outstanding residential debts. We focus upon two birth cohorts (1930 – 1949 / 1950 – 1962) because they bought their first home generally in a different period with different homeownership expansion policies (further discussed below). We reflect on the first edge of homeownership by showing changes in homeownership rates for occupational classes between the two cohorts. Furthermore, we shed light on the second edge of homeownership by investigating changes in the distribution of housing wealth across homeowners in different occupational classes between both birth cohorts.

This research advances previous studies in three ways. First, it advances studies on wealth inequalities (Engelhardt & Kumar, 2011; Semyonov & Lewin-Epstein, 2013; Spilerman, 2000). In these studies, housing wealth is seldom taken into account separately, whereas it has different drivers than financial wealth. Second, it advances studies that investigated inequalities in access to homeownership and housing outcomes (Dewilde & Lancee, 2013). Instead of looking at inequalities between tenants and homeowners, this paper focuses on inequalities in housing wealth. It adds an important dimension to the study of housing-related inequalities. Third, it generates a new international-comparative perspective on the role of housing wealth instead of tenure choices across occupational classes by examining differences across clusters of 16 European countries (Kurz, 2004).

### **Housing wealth and stratification**

Wealth and labour market income are separate dimensions of socio-economic stratification (Spilerman, 2000). We focus on housing wealth (separately from financial wealth), since it is unique in two important ways. First, contrary to financial wealth, it is possible to enjoy this form of wealth at the same time as it is accumulated. Second, homeownership is strongly promoted by governments, which has a profound effect on its distribution compared to financial wealth.

#### *Housing wealth accumulation*

Housing wealth is accumulated over the life course (Cowell, Karagiannaki, & McKnight, 2012). This accumulation process starts with the decision to become a homeowner. Partnership formation and parenthood are related to the entry into homeownership, while, for example, divorce or unemployment may lead to exits (Mulder & Wagner, 1998). For those who entered homeownership, initial housing wealth is determined by the purchase price in relation to the down-payment and the size of the mortgage. High down-payments can function as a barrier to enter homeownership but also

lead to an initial stock of housing wealth. Easy access to credit can foster entry into homeownership without this initial stock. Third, housing wealth is shaped by the mortgage terms that determine how much capital is accumulated. Fourth, capital gains and losses reflected in the difference between the initial purchase price and the current market value of the house affect housing wealth. The latter is determined by current housing market dynamics.

### *Housing wealth distribution*

Standard analyses of wealth seldom focus on the role of housing wealth in socio-economic stratification. Appleyard and Rowlingson (2010) study housing wealth in isolation and conclude that the housing wealth distribution in the United Kingdom (UK) is more equal than the financial wealth distribution (also see Davies and Shorrocks (2000)). However, their analysis does not show how housing wealth adds to other socio-economic inequalities. In this paper, we therefore investigate housing wealth holdings across occupational classes. This is important, as different occupational classes are distinctively affected by government policies. For example, the expansion of homeownership was directed towards middle and lower classes. Furthermore, different drivers of housing wealth can be dominant in particular occupational classes, e.g. self-help is dominant for skilled manual workers in rural areas of corporatist welfare states with a stronger focus on family networks (Kurz, 2004).

### *A changing housing wealth distribution*

The distribution of housing wealth across occupational classes develops over time, due to housing market dynamics and government interventions. By analysing housing wealth of occupational classes in two cohorts that are differently affected by these changes, we try to show how homeownership expansion and housing finance liberalisation policies play out across the class structure. We expect differences between cohorts because of two reasons. First, different cohorts have been subjected to different housing policies, since the preferences of governments shifted over time. In times of homeownership expansion, more lower- and middle-class households are able to make the step into homeownership. Second, capital gains and losses are based on time and location. Hamnett (1999) and Burbidge (1998) find for the UK and Australia that lower-class homeowners faced lower capital gains than higher-class owners during the liberalisation of housing finance. As we are unable to disentangle cohort and period effects in our analysis, we discuss our results as cohort differences that are substantially shaped by cumulative period effects during respondents' life courses. Previous analyses of the SHARELIFE-data have shown that in most countries, there are few residential moves after age 50 (Angelini, Brugiavini, & Weber, 2011). This implies that age-effects caused by the transformation of housing wealth into financial wealth (e.g. by down-sizing or exiting homeownership) affect our results only marginally.

### **Housing wealth accumulation regimes**

Housing wealth trajectories are shaped through the interaction between life courses and institutional factors. We refer to this interaction as housing wealth accumulation regimes, resulting in international variations in the distribution of housing wealth between occupational classes. Housing wealth accumulation regimes determine which social groups have access to homeownership (at which age), how they finance it, for which price they buy their dwelling and to what extent they experience capital gains and losses. Homeownership expansion and housing finance liberalisation policies are the main institutional arrangements of housing wealth accumulation regimes.

In this study, we identify five housing wealth accumulation regimes, based on their homeownership expansion and housing finance regulation policies. Homeownership expansion is measured on the basis of (1) homeownership rates in 1980 and (2) their development until 2008 (see Table 1). In the earlier period, expansion is mainly driven by state-sponsored promotion following WWII (e.g. demand subsidies, mortgage-interest tax deductions and housing grants). In the

second period, expansion is caused by a combination of the liberalisation of housing finance and the before-mentioned promotion programmes. Housing finance regulations are reviewed to distinguish between state- and liberalisation-driven expansion of homeownership. The latter is indicated by average-loan-to-income ratios, and loan maturities (see Table 1). The higher loan-to-value ratios, and the longer loan maturities, the easier the availability of mortgage finance. Loosening housing finance regulations are part of economic globalisation, but are also deliberately used by governments to enable younger (lower- and middle-class) households to enter homeownership (Angelini et al., 2013). Although our focus lies with housing (finance) policies, other welfare state arrangements also matter. Income protection and redistribution equalise chances in the housing market, and therefore lead to smaller differences between occupational classes in terms of homeownership and housing wealth. Furthermore, a lack of old-age arrangements in the form of pensions, can contribute to higher homeownership rates. Outright ownership functions as a piggybank, which generates low monthly fixed housing costs (Castles, 1998; Kemeny, 1981). We expect that as a consequence of difference policy preferences, the first and the second edge of homeownership have a different nature in the five housing wealth accumulation regimes.

Housing wealth accumulation regime	Country	Homeownership rate in 1980	Development of homeownership (1980 - 2008)	Normal loan-to-value (2005 - 2010)	Loan maturity in years (2005 - 2010)
Developing Mediterranean	Italy	59%	+10	55 - 80%**	5-20
	Spain	73%	+12	80 - 100%**	15-20
	Portugal	52%	+24	80 - 90%	30-40
Developing privatisation	Estonia	26%	+70	70-75%	Up to 30
	Hungary	71%	+21	70%	5-35
	Poland	36%	+51	80 - 100%	5-32,5
	Slovenia	69%	+23	50%*	10
Restricted rental	Germany	30%	+13	70 - 80%*	20-30
	Switzerland	30%	+13	65%	15-20
	Austria	52%	+4	70 - 85%*	25
	Czech	53%	+11	70 - 85%*	20
Regulated expansion	Belgium	59%	+9	80 - 90%	20
	France	47%	+10	66 - 100%	15-20
Liberal expansion	Denmark	56%	-3	80%	30
	Sweden	58%	-2	85 - 95%	30-45
	Netherlands	42%	+16	95 - 100%**	30
* = <i>Bausparen</i> important element of finance ** = RMBS important element of housing finance					

Table 1: Overview of housing wealth accumulation regimes. Source: (Brown, 2005; Dol & Haffner, 2010; Drudi et al., 2009; EC, 2014; EMF, 2007, 2013; Hess & Holzhausen, 2008; HFN, 2014; Hilbers, Banerji, Shi, & Hoffmaister, 2008; OECD, 2014a; Queisser & Whitehouse, 2005; Standard&Poor's, 2002; Swedbank, 2012).

The *developing Mediterranean regime* (Italy, Spain and Portugal) shows a strong and early expansion of homeownership and a developing mortgage market. Especially in Spain, homeownership has become almost universal. However, 1980 homeownership rates do not differ much from those in Belgium and France at that moment. The Mediterranean countries are classified as a separate regime, since the role of the family in the allocation of housing is more important than

in other regimes. In these countries, a rental sector is lacking (Mulder & Billari, 2010), and housing finance is not widely available. Loan-to-value ratios are moderate, but mortgage terms largely differ between individuals. In the decades after WWII, homeownership expanded due to the privatisation of social housing (Donner, 2000), and later because governments tolerated illegal self-construction (Allen, 2006). Since the 1980s, illegal construction became less tolerated and the privatisation of social housing came to an end. In Spain and Portugal, loans became slightly more accepted, but especially in Italy, intra-family transfers constitute an important source of obtaining homeownership (Mulder & Billari, 2010). We expect relatively small tenure inequalities between occupational classes in the developing Mediterranean regime, because of the large and early expansion of homeownership in these countries. We envisage two possible consequences of these small tenure inequalities for the distribution of housing wealth. First, we expect that housing wealth becomes more unequally distributed when homeownership rates increase. Lower occupational classes are only able to enter homeownership when they take out loans, select themselves into less popular locations or lower-quality dwellings, which lowers their housing wealth and enlarges their relative distance to higher occupational classes. Second, the family as housing allocation mechanism is expected to reduce housing wealth inequalities. The labour market income of the household is arguably a less important predictor of housing consumption when families build their own houses on collective lands.

The *developing privatisation regime* consists of post-socialist countries (Estonia, Hungary, Poland and Slovenia) and has a high (but late) expansion of homeownership and a developing mortgage market. With homeownership rates close to 100% in 2008, owner-occupancy has expanded even more than in the developing Mediterranean regime. Short loan maturities and large individual variation in loan terms indicate a developing housing finance system. Loans are seldom used to finance homeownership. Only very recently, lending criteria in Estonia and Poland are somewhat eased (Bohle, 2013). The post-socialist countries are classified in a different regime than the Southern European welfare states, since the timing of the expansion of homeownership differs. In the developing privatisation regime, homeownership rates rose since the 1990's, when a majority of the population could acquire homeownership via 'give-away' privatisation schemes. The impact of these schemes differs between the southern and the northern countries in this regime, since the southern countries of Slovenia and Hungary have a longer tradition of homeownership under communism (Andrusz, Harloe, & Szélenyi, 2008). Since the fall of communism, the housing market has been neglected by the state and the market. Housing finance is only limitedly available and semi- or illegal self-construction was accepted in the transition period. This increased the role of the family as allocation mechanism for housing (Remmert, Hegedűs, & Tosics, 2001; Stephens, Lux, & Sunega, 2015). We expect small tenure inequalities between occupational classes in this regime, and small differences between the two birth cohorts, even though homeownership rates were far lower when the oldest birth cohort entered the housing market (under communism). The high (close to 100%) 2008 homeownership rates indicate that households from all cohorts bought their state-owned rental dwelling for give-away prices after the fall of the Iron Curtain. We expect housing wealth inequalities to be smaller in the oldest cohort than in the youngest cohort. For members of the oldest cohort, who obtained the homes they bought in later life under communism, we suppose that the link between occupational class and housing consumption is weaker than in the youngest cohort because loyalty towards the ruling party, instead of labour market income, was decisive in obtaining housing until 1990.

In the *restricted rental regime* (Germany, Switzerland, Austria and Czech Republic), the expansion of homeownership has been limited (homeownership rates between 30 and 50%) and the housing finance system is restricted. Low homeownership rates can be explained by two factors. First, non-stigmatised rental housing is widely available, and forms an alternative for homeownership, even for higher-class households (Bourassa & Hoesli, 2010). Second, the entry into homeownership is difficult due to a restricted housing finance system. Table 1 shows that loan-to-value ratios are low (a large down-payment is needed) and maturities short. The prominence of

*Bausparen* schemes, i.e. long-term saving schemes coupled with attractive loans, underlines the conservative orientation of the housing finance system. This financial system delays a move into homeownership for many people. The lower classes often never make the move into homeownership. Evidence shows that working class households were more likely to enter homeownership in the decades after WWII. In that period, self-construction was more common (especially in rural areas) due to extensive demand subsidies (Kurz, 2004). Although the Czech Republic is a post-socialist country, it is classified in the restricted rental regime due to its low homeownership rate and conservative housing finance system. We expect large tenure inequalities between occupational classes, due to the low homeownership rates in this regime. Since homeownership is most restrictive in this regime, compared to other regimes, we expect the lowest net housing wealth inequalities. When homeownership is more restrictive, lower class households that enter homeownership do not only use their labour market income to obtain a (smaller) mortgage, but other sources as well, like savings and family transfers. Furthermore, the restricted housing finance system resulted in stable house price developments, which possibly prevented an increase in inequality in housing wealth between occupational classes. Since homeownership rates were higher when the youngest birth cohort entered the housing market compared to the oldest cohort, we expect larger housing wealth inequalities among the youngest cohort (1950-1961).

In the *regulated expansion regime* (Belgium and France), the expansion of homeownership continues until the present day, and the housing finance system is regulated. Both countries in this regime have promoted homeownership since WWII with targeted schemes for (low-income) households in the form of subsidies or tax deductions. An example is the French *pret-a-taux-zero* (interest subsidy) that enables lower-class households to enter homeownership (Donner, 2000). Higher homeownership rates are furthermore caused by the less restrictive housing finance system. Housing loans are a common way to finance homeownership. However, access is much easier for higher income groups (Mulder & Billari, 2010). Since the expansion of homeownership is only slightly lower than in the developing Mediterranean regime, we expect comparable, or slightly larger tenure inequalities between occupational classes, as individuals are less reliant on the extended family. Housing wealth inequalities are expected to be larger among the youngest cohort (1950-1962) than among the oldest cohort (1930-1949) due to the mortgage-driven expansion of homeownership. The latter allows lower-income households to enter homeownership, but does not necessarily allow them to accumulate housing wealth (due to large debts) (Lowe, Searle, & Smith, 2012).

Finally, the *liberal expansion regime* consists of Denmark, Sweden and the Netherlands, where the expansion of homeownership is moderate, but the housing finance system fairly deregulated. Especially in Denmark and Sweden, homeownership rates in 1980 were relatively high, since their governments promoted homeownership in a non-financialised way in the decades after WWII, by granting object subsidies to large developers (Hedin, Clark, Lundholm, & Malmberg, 2012). In the Netherlands, these funds were channelled into rental housing. These direct state interventions in the housing market were aimed at solving the housing shortage after WWII, and at building an inclusive welfare state. Part of the homeownership promotion programs in these countries was a preferential fiscal treatment of homeownership in the form of interest tax deductions (Donner, 2000). In Denmark and Sweden, homeownership rates did not rise after 1980. Increasing homeownership rates in the Netherlands, make the situation in this country in 2008 comparable to the other countries in this regime. All three countries abandoned object subsidies in the 1980's and embraced liberal housing finance systems. Table 1 shows that average maturities are 30 to 40 years, and loan-to-value ratios exceeding 100% are common. The easy access to credit originates from regulations that allow banks to put off risks to third parties. In the Netherlands, Residential Mortgage Backed Securities (RMBS) are used, whereas mortgage bonds are common in Denmark. The countries in this regime have the highest mortgage debt to GDP ratios in Europe (Schwartz & Seabrooke, 2008). Furthermore, there is evidence that the liberalisation of housing finance led to more volatile and inflated house prices (OECD, 2014b). We expect that tenure inequalities between occupational classes are larger



than in the restricted rental regime, because the social rental sector is especially for the lower and middle class an attractive alternative to homeownership. We expect these inequalities to be slightly lower among the youngest cohort due to increasing homeownership rates in the Netherlands between 1980 and 2008. We expect that the liberalisation of housing finance increases net housing wealth inequalities, by allowing households to take out large residential loans. Especially lower class households are expected to be unable to amortize their mortgages. Since the liberalisation of housing wealth took off since the 1980s, we expect larger housing wealth inequalities, and higher mortgage debts among the youngest cohort (1950 – 1962) than among the oldest cohort (1930 – 1949). Capital gains and losses as a driver of housing wealth accumulation play an arguably larger role in the liberal expansion regime than in the other regimes. Capital gains generate a return on a certain location (Hamnett, 1999), and translate into housing wealth inequalities between occupational classes when they are spatially segregated.

## **Data and method**

### *Data*

Our analysis is based on the fourth wave of the Survey of Health and Retirement in Europe (SHARE). This is an international longitudinal, ex-ante harmonized survey, carried out in 16 countries (Austria, Germany, Sweden, the Netherlands, Spain, Italy, France, Denmark, Switzerland, Belgium, Czech Republic, Poland, Hungary, Portugal, Slovenia and Estonia) in 2011/12. Contact-, cooperation- and retention rates are high (around 90, 60 and 50%), but differ considerably between countries (Malter & Börsch-Supan, 2013). Information from the second (2006) and the third wave (2008) is used to enrich the data from the fourth wave. In this way, we are able to link information from spouses and other family members who passed away or dropped out before the fourth wave, to those who participated in wave four. The use of the SHARE-data has three major advantages. First, it is one of the few international comparative datasets containing information on (housing) wealth. Second, SHARE has a large sample size in all 16 countries that are included. In total, 59599 respondents participated in wave four, with a minimum of 1623 in Germany, and a maximum of 6828 in Estonia. Germany, Poland and Sweden have relatively few participants in this wave, because no refreshment sample has been added. The third advantage of the SHARE is that countries belonging to various welfare regimes and housing systems are represented.

### *Sample*

Only one respondent per household is kept in the dataset, as our most important variable is measured at the household level. Two sample restrictions are imposed. First, for clarity of presentation, we focus on two birth cohorts, 1930–1949 and 1950–1962. Second, female-headed households, of women whose husbands died before wave three, are excluded. It is likely that the occupational status of these households will be underestimated as the husbands' occupational status is often higher than the wife's. These sample restrictions reduce the sample by 20%.

### *Variables*

Net housing wealth, the variable of main interest, is measured at the household level. Net housing wealth is the market value of the first dwelling and potentially a second property (gross housing wealth) minus the residential debt. The current market value is derived from self-evaluation by the respondent. Previous studies using the same, admittedly subjective measure have proven its reliability (Ansell, 2013; Mulder, Dewilde, Van Duijn, & Smits, Forthcoming). Top-coding at the 99.8-percentile is used to remove outliers. Home-owning households with no information on their housing wealth receive a missing value. To facilitate comparisons between countries with different currencies and prosperity levels, we calculate net housing wealth as a percentage of the national mean.

Residential debt is included as a separate variable, as one of the drivers of housing wealth. It is calculated as percentage of the value of the house, to evaluate the role of housing finance in different housing wealth accumulation regimes.

Occupational class is measured with a four-category classification of occupational class based on the ISCO-code, additionally distinguishing the self-employed. Elementary occupations, plant and machine operators, and skilled agricultural or fishery workers are classified as 'low'. Crafts and related trade workers, service workers and shopkeepers and clerks are classified as 'middle'. Technicians, associate professionals, professionals and legislators, senior officials and managers are classified as 'high'. The self-employed are treated as a separate category, as they are often less protected by welfare arrangements, and the owned home forms part of their means of production (Kurz, 2004). For retired, sick or unemployed respondents, information about the last job hold, is used. For those who are still working, we use information about the current job. The highest occupational class status in the household is allocated to all members, since they are assumed to pool resources.

Two birth cohorts are distinguished to investigate how the distribution of housing wealth across occupational classes developed over time<sup>1</sup>. The first cohort includes those who were born between 1930 and 1949, the second cohort those who are born between 1950 and 1962. We exclude respondents who are born after 1962, since they do not belong to the sample of the fourth wave of SHARE (aged 50 and older in 2012). We exclude respondents who are born before 1930 because their number is too small to add them as a separate cohort. Based on theoretical considerations, we split the remaining sample in a cohort born before 1950, and from 1950 onwards. Since the liberalisation of housing finance took off in the 1980s, and people in general buy their first house before age 35, we can assume that the cohort born before 1950 bought the first dwelling during the heydays of the government-sponsored expansion of homeownership, whereas a considerable share of the respondents born after 1950, bought after the start of housing finance liberalisation. Respondents are assigned to the cohort of the oldest household member (mostly the man).

### *Methods*

Descriptive statistics are used to map tenure inequalities and housing wealth inequalities among occupational classes in an older (1930–1949) and a younger (1950–1962) birth cohort. We report the average homeownership rate, net housing wealth holdings relative to the national mean and residential debts relative to gross housing wealth holdings for occupational classes pooled in five housing wealth accumulation regimes. Homeownership rates indicate how many people are eventually able to accumulate housing wealth. Average housing wealth holdings shed light on the financial consequences of residing in homeownership. Residential debts in later life, finally, show the share of people which has been unable to accumulate housing wealth by entering homeownership. The statistical significance of differences between cohorts and occupational classes, and over time, is evaluated at the two-sided 90% confidence level. The choice for a 90%-confidence level is justified by the argument that change over time is often slow, which makes it harder to detect significance.

### **Results**

The expansion of homeownership has a different form and timing in our five housing wealth accumulation regimes (see Table 1). As a consequence, occupational classes in two cohorts (1930–1949 and 1950–1962) differ from each other in terms of homeownership rates and housing wealth holdings. We discuss the development of tenure and housing wealth inequalities by regime (see Table 2 in appendix for precise figures).

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<sup>1</sup> A cohort-comparison to assess developments over time is based on the assumption that occupational classes have a similar size and meaning in the two cohorts. The relative size shows little variation over time. We assume that the meaning of occupational classes shows larger cross-country than cross-time variation.

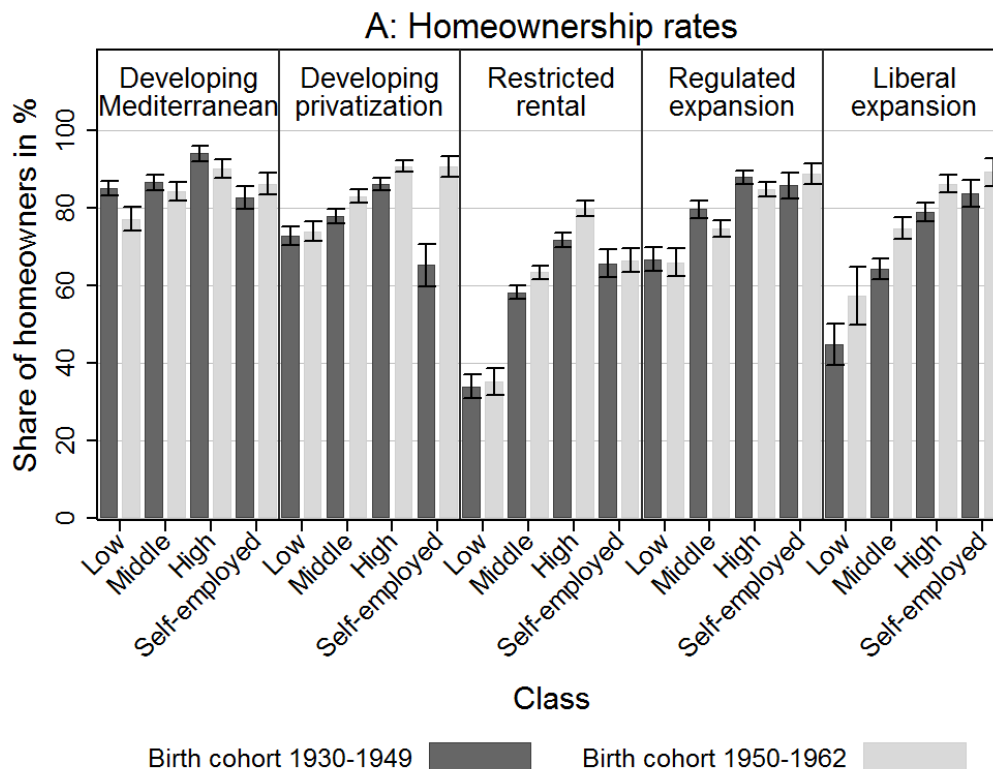


Figure 1: Homeownership rates of occupational classes in two cohorts, in different housing wealth accumulation regimes. Source: Share wave 2,3,4 (own computation).

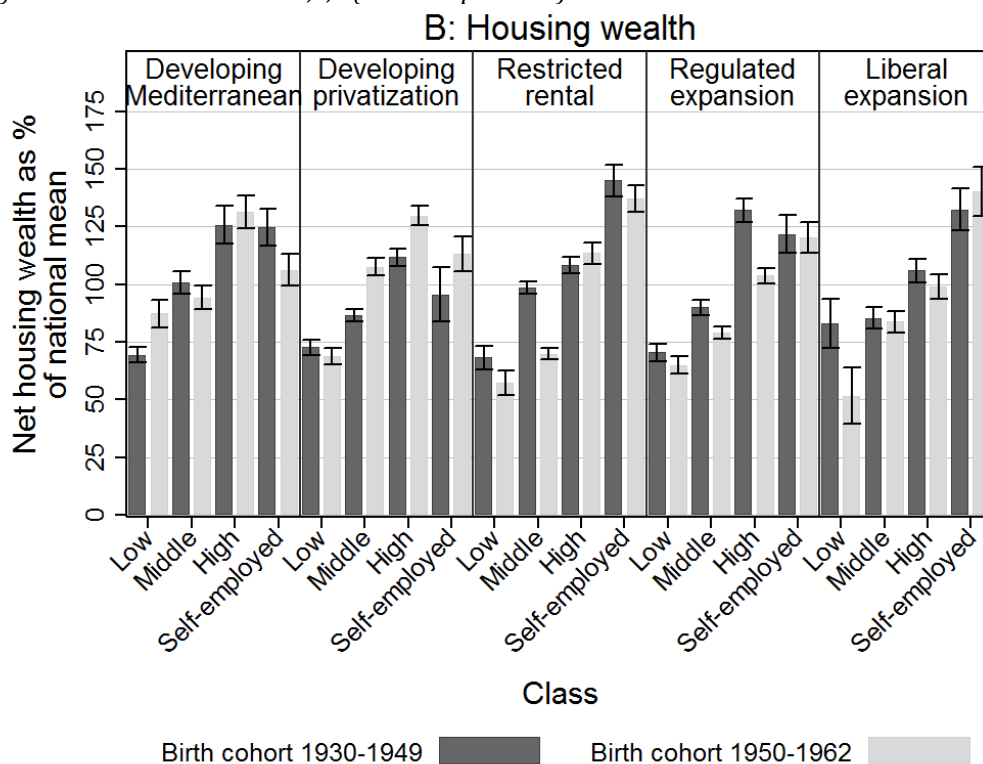


Figure 2: Housing wealth holdings of occupational classes in two cohorts, in different housing wealth accumulation regimes. Source: Share wave 2,3,4 (own computation).

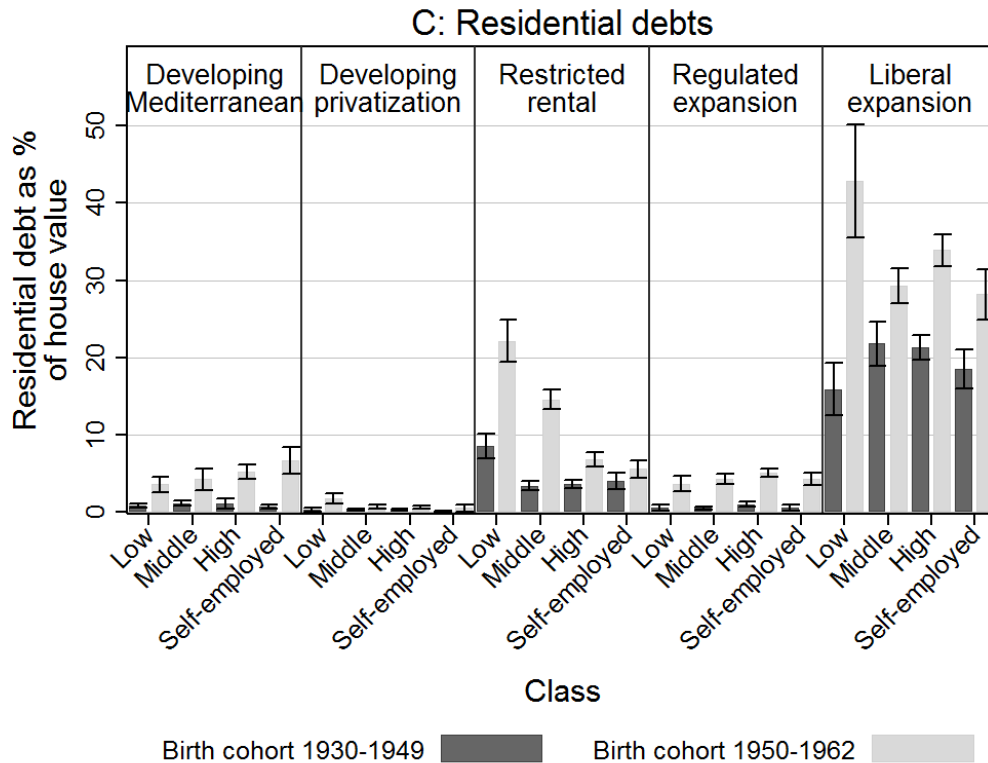


Figure 3: Residential debts of occupational classes in two cohorts, in different housing wealth accumulation regimes. Source: Share wave 2,3,4 (own computation).

#### *Developing Mediterranean regime*

The Southern-European countries in the developing Mediterranean regime have a long tradition of homeownership due to lack of rental housing and widespread self-construction. The large and early expansion of homeownership (see Table 1) has translated into smaller tenure inequalities across occupational classes than in all other regimes. The homeownership rate among the lowest class in the 1930-1949 birth cohort is 85%, whereas it is 94% for the highest class in this cohort (see Figure 1(a)). Whereas overall homeownership rates increase between 1980 and 2008 (Table 1), our results suggest that homeownership rates dropped significantly between cohorts for the lowest occupational class. Figure 1(a) shows that only 77% own a home in the 1950-1962 birth cohort (compare with 85% in the oldest cohort). We point at three possible explanations. First, the working-class housing strategy of self-construction became less accepted over time (Allen, 2006). Second, housing finance was not available to fill this gap (Mulder & Billari, 2010). Third, access to a secure labour market position has become increasingly difficult for young people in these countries, resulting in later ages of nest-leaving (Aassve, Billari, & Ongaro, 2001).

Housing wealth inequalities are more pronounced than tenure inequalities. As shown in Figure 1(b), net housing wealth holdings of the lowest class in the 1930-1949 cohort are 69% of the national mean, whereas housing wealth holdings of the highest occupational class in this cohort are 126%. Only the position of the lower class and the self-employed change when the two cohorts are compared. The lower class in the 1950-1962 cohort increases its position with 18 percentage points to 87% of the national mean, whereas the position of the self-employed deteriorates (see Figure 1(b)). The increasing housing wealth holdings of the lowest occupational class are associated with decreasing homeownership rates. This indicates that the lower-class respondents entering

homeownership may have become increasingly selective over time, likely in terms of the type of housing (higher value) and perhaps also in terms of the resources they brought with them in the first place. Although residential debts are generally very small, they display a steep rise when the oldest cohort is compared with the youngest cohort.

#### *Developing privatisation regime*

The universality of homeownership in the post-communist countries translates into high homeownership rates among all occupational classes in both cohorts. Figure 1(a) shows that 73% of the lower-class households in the 1930-1949 birth cohort are homeowners, whereas 86% of the higher-class households in this cohort live in an owned home. When the younger and the older birth cohort are compared, homeownership rates increased with five percentage points to 83% for the middle class, and with six percentage points to 92% in the higher class. The self-employed display the largest increase, from 65% to 90%. In the transition from a socialist- to a free-market economy, the number and social position of entrepreneurs (often part of the old party *nomenklatura*) increased. The higher homeownership rates among the higher class and the self-employed should be interpreted as consequence of the privatisation process that “turned former political power [...] into a market asset” (Donner, 2006, p. 136). As noted before, the lower occupational groups were not able to improve their position to the same extent.

The small tenure inequalities in the developing privatisation regime are, especially in the oldest cohort, mirrored by small housing wealth inequalities. When the oldest cohort is taken into account, tenure differences between the lower- and higher class are smaller than in most other regimes (see Figure 1(b)). In the 1930-1949 birth cohort, which obtained their homes generally under communism, housing wealth holdings of the lowest occupational class are 73% of the national mean, whereas housing wealth holdings of the highest occupational class are 112% of the national mean. When the youngest cohort is compared to the oldest cohort, both the middle and higher class improve their position. Figure 1(b) shows that housing wealth holdings of the middle class rise with 12 percentage points to 108%, and housing wealth holdings of the highest occupational class rise with 18 percentage points to 130% of the national mean in the 1950-1962 birth cohort. Lower-class households that entered the housing market after the fall of communism, made a similar tenure choice as their higher-class counterparts due to a lack of rental housing. However, they have not been able to accumulate the same amount of housing wealth. The absence of residential debts in both cohorts point at the existence of a non-financialised housing market.

#### *Restricted rental regime*

The countries in this regime (Germany, Switzerland, Austria, Czech Republic) have low homeownership rates due their unitary rental market with accessible and non-stigmatised (public) rental housing (Hoekstra, 2009). Our findings suggest that especially among the lowest occupational class, homeownership rates are lower than in any other regime. Figure 1(a) shows that the lowest occupational class in the 1930-1949 birth cohort has a homeownership rate of 34%, compared with 72% for the highest occupational class. The expansion of homeownership has led to higher homeownership rates among the middle- and higher class in the 1950-1962 cohort. Homeownership rates increased from 58% to 63% for the middle class, and with eight percentage points to 80% for the highest class. Increasing tenure inequalities are the result of the slower degree of expansion at the beginning of the process, relative to other countries. Therefore, there is potential for expansion of homeownership among more wealthy and less risky households.

The expectation that the smallest expansion of homeownership co-occurs with the smallest housing wealth inequalities, does not hold. In the 1930-1949 birth cohort, the distribution of housing wealth does not significantly differ from the developing privatisation regime (except for self-employed). As shown in Figure 1(b), the housing wealth holdings of the lowest class in the oldest cohort are 68% of the national mean, compared to 108% for the highest occupational class. When

both cohorts are compared, the middle class in the youngest cohort loses out from 99% to 70% of the national mean, the lowest occupational class with eleven percentage points to 57% of the national mean. The falling housing wealth holdings for the lower and middle class, are mirrored by an increase of mortgage debts. Among the lowest occupational class, residential debts increased from 8% to 22% percent of the house value, whereas mortgage debts increased from 3% to 15% among the middle class. When the lower and the middle class in the two cohorts are compared, we can conclude that the share of homeowners has only slightly increased, and that the average house value between the two cohorts does not differ much. We speculate that lower- and middle-class households increasingly have been using mortgage debts to keep up their housing consumption in a period of rising relative costs of housing (e.g. due to the reduction of self-construction).

#### *Regulated expansion regime*

In this regime (France, Belgium), homeownership is stimulated in a state-market nexus, with subsidies and loans, resulting in a similar expansion to the developing Mediterranean regime. Tenure inequalities are larger than in the developing Mediterranean regime. In the 1930-1949 birth cohort, 67% of the households in the lowest occupational class are homeowners, compared to 88% of the households in the highest occupational class. When both cohorts are compared, only the middle class loses out slightly with five percentage points (from 75% to 80% of the national mean). The upswing in overall homeownership rates since 1980 (see Table 1) is likely to have materialised for the younger cohorts, which are not included in our analysis sample.

Housing wealth inequalities between occupational classes in the 1930-1949 birth cohort are larger than in any other regime, which is expected on the basis of a large expansion of homeownership. Figure 1(b) shows that housing wealth holdings of a lower-class household in the 1930-1949 are more than sixty percentage points lower than those of a higher class household (respectively 70% and 132% of the national mean). However, the distribution of housing wealth becomes more equal in the 1950-1962 cohort. As shown in Figure 1(b), housing wealth holdings of the middle class dropped from 79% (90% in the oldest cohort), and housing wealth holdings of the highest occupational class dropped from 132% to 104% of the national mean. The reason behind the lower housing wealth holdings of the middle- and higher class are unknown. However, the stable position of the lower class seems to be the result of targeted homeownership stimulation and protection schemes in these countries, e.g. *pret-a-taux-zero* schemes. Although mortgages are widely used to finance housing, a very large share appears to be paid back in later life. However, when the youngest cohort is compared with the oldest cohort, residential debts rise from around 1% to around 4% (see Figure 1(c)).

#### *Liberal expansion regime*

The countries in this regime (Denmark, Sweden, the Netherlands) have a non-stigmatized restricted rental market, combined with a liberal housing finance regime. Compared to the restricted rental regime (with a comparable unitary rental market), homeownership rates are higher among the lower- and middle classes (see Figure 1(a)). In the 1930-1949 birth cohort, the homeownership rate of the lowest occupational class is 45%, relative to 79% of the highest occupational class. When the 1950-1962 birth cohort is compared to the 1930-1949 cohort, the lower, middle and high class display increasing homeownership rates. The largest increase can be found in the middle class, from 64% in the oldest cohort to 75% in the youngest cohort. The increase among the lowest occupational class is considerable, but has a larger confidence interval. It is worth remarking that the liberal expansion regime is the only regime in which homeownership rates increased among the lower class. Lower-class households were able to enter homeownership as a result of the liberalisation of housing finance, which allowed financial institutions to take larger risks, resulting lower down-payment requirements and loan-to-value ratios.

In the liberal expansion regime, net housing wealth is distributed fairly equally across the different occupational classes in the oldest birth cohort. Figure 1(b) shows that housing wealth holdings of the highest class, are only slightly higher than those of the lowest occupational class (respectively 106% and 83% of the national mean). We speculate that this finding originates from the non-financialised way in which the (especially Nordic) governments in this regime have promoted homeownership in the post-war period. When the two cohorts are compared, especially the lower housing wealth holdings of the lowest occupational class, are striking. Their housing wealth holdings drop from 83% of the national mean in the 1930-1949 birth cohort, to 52% in the 1950-1962 cohort. The decreasing housing wealth holdings of the lowest occupational class, are mirrored by an increase of residential debts. Mortgage debts are far larger in the liberal expansion regime, than in any other. Figure 1(c) shows that residential debts are between 16% and 21% of gross housing wealth (the current market value) in the 1930-1949 birth cohort, and between 29% and 43% of the gross housing wealth in the 1950-1962 birth cohort. The liberalisation of housing finance allowed mortgage debt to penetrate into all occupational classes, although the increase has been much more pronounced among the lower class. Lower loan-to-value ratios, and very long loan maturities have allowed lower classes to enter homeownership, but have created a new form of inequality in the sphere of housing. The large residential debts among the population aged 50 and over imply that for many (those with interest-only mortgages) the entire housing wealth is based on capital gains.

## Conclusion

In this paper, we argue that housing wealth is an important dimension of economic stratification. It is realized in an accumulation process over the life course within different institutional contexts. The interaction between the institutional context and the life course is conceptualized as the housing wealth accumulation regime. We distinguish five regimes in which the expansion of homeownership has a different timing, origin and intensity. For these regimes, we investigate to what extent households from different occupational classes in two birth cohorts (1930-1949 and 1950-1962) are able to enter homeownership (tenure inequality), and to what extent they are able to accumulate housing wealth if they enter homeownership (housing wealth inequality).

Tenure inequalities and housing wealth inequalities interplay differently in the five housing wealth accumulation regimes. As a rule of thumb, housing wealth inequalities among homeowners are larger when tenure inequalities are smaller. As the income determines housing consumption, the attraction of economically weak households into homeownership results in larger housing wealth inequalities between occupational classes. Although wealth accumulation is generally one of the political motives behind the expansion of homeownership, its wealth effects are smaller than sometimes assumed.

Both a cross-regime comparison of separate cohorts, as a cross-cohort comparison within regimes, point at the association between tenure inequality and housing wealth inequality. First, the cross-regime comparison can be illustrated by focusing upon the restricted rental regime (Germany, Switzerland, Austria, Czech Republic), and the regulated expansion regime (Belgium France). Countries in both regimes have comparable conservative welfare states. However, their expansion of homeownership differs. Especially in the period in which the 1930-1949 birth cohort entered the housing market, the expansion of homeownership in the regulated expansion regime was high due to housing grants, tax deductions and demand subsidies. In the restricted rental regime, homeownership rates among the lower- and middle class are fairly low since non-stigmatised social housing forms an attractive alternative. The significantly higher housing wealth holdings of the middle class in the restricted rental regime, compared to the regulated expansion regime, shows that the diversification in the influx contributes to housing wealth inequalities when mortgage credit has a larger role in the expansion of homeownership.

Second, a cross-cohort comparison of occupational classes confirms the association between tenure inequalities and housing wealth inequalities. In the restricted rental regime, increasing

homeownership rates among the middle class are mirrored by decreasing housing wealth holdings. In the developing Mediterranean regime, decreasing homeownership rates among the lowest occupational class, are mirrored by increasing housing wealth holdings. Stronger evidence can be found in a cross-cohort comparison in the liberal expansion regime (Denmark, Sweden, the Netherlands). This is the only regime where lower-class households in the youngest cohort are substantially more likely to own a home than their older counterparts due to the relaxed housing finance criteria. However, their housing wealth holdings are substantially lower. The liberalization of housing finance created a new group of precarious homeowners, with larger mortgage debts. In all housing wealth accumulation regimes, expect the developing privatisation regime, residential debts display an enormous increase. Especially in the restricted rental- and liberal expansion regime, debts doubled between the between the 1930-1959 and the 1950-1962 birth cohort (to maximally 43% of the housing value). The fact that lower- and middle-class households face difficulties in amortising their mortgage, even in later life, enlarges housing wealth inequalities.

Our results however suggest that there are mechanisms that moderate the association between tenure inequality and housing wealth inequality. State involvement in the housing market seems to have led to relatively small housing wealth inequalities among the 1930-1949 birth cohort in the developing privatisation regime and the liberal expansion regime. For the developing privatisation regime (Estonia, Hungary, Poland, and Slovenia), we argue that the link between the labour market income and housing consumption was weakened under communism because the (semi-) public sector allocated housing especially according to ideological loyalty rather than occupational background. For the liberal expansion regime (Denmark, Sweden, the Netherlands), we argue that especially the social-democratic governments in the Nordic countries weakened the link between the labour market income and housing consumption by the provision of subsidised homeownership. The 1950-1962 cohort, of which a large share entered the housing market after the fall of communism in the developing privatisation regime, or after the liberalisation of housing finance in the liberal expansion regime, display far larger housing wealth inequalities. In the developing Mediterranean regime (Italy, Spain, Portugal), we find another mechanism that moderates the association between tenure inequality and housing wealth inequality. Housing wealth inequalities are similar to those in the less familialistic, regulated expansion regime with lower homeownership rates. Furthermore, the relative position of the lowest occupational class in the 1950-1962 cohort is better than in any other cohort. We speculate that the larger role of the family in the allocation of housing has as a consequence that the link between labour market income and housing consumption is weaker than when obtaining a mortgage is the usual route to homeownership. In the developing Mediterranean regime, housing is often inherited or, in the case of the oldest cohort, self-built.

To conclude, in market-based housing wealth accumulation regimes, the expansion of homeownership leads to an increase of housing wealth inequalities. As a consequence, attempts to encourage lower-class households to enter homeownership do not always improve their position in the socioeconomic stratification system since they accumulate less housing wealth than their higher-class counterparts. At the same time, we find that a less marketised expansion of homeownership (e.g. a large role of the state or the family in the production and allocation of housing), potentially mitigates housing wealth inequalities among occupational classes.

To grasp in more detail how housing wealth inequalities are shaped, further research should overcome at least three shortcomings of our study. First, it is important to broaden the scope to younger birth cohorts. With the current data we are not able to grasp the effects of housing finance liberalisation on the group that is arguably affected most by it. Among younger generations, the combination of innovative mortgage products and negative price developments have had more detrimental effects than among the population of this study. Second, we only took into account housing wealth due to data limitations, whereas its impact on stratification can only be estimated by including financial wealth in the analysis. Yet, small housing wealth holdings can be complemented



by large financial wealth holdings. Finally, we have only elaborated upon the link between occupational class and the accumulation of housing wealth, whereas the demand on the housing market is even more shaped by life course events, the possibilities for pooling incomes and housing transitions within a spatial context.

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## Appendix

Housing wealth accumulation regime	Occupational class	Homeownership rate 1931-1949 with 10% confidence interval			Homeownership rate 1950-1962 with 10% confidence interval			Net housing wealth (1931 - 1949) with 10% confidence interval			Net housing wealth (1950 - 1962) with 10% confidence interval			Residential debt (1931-1949) with 10% confidence interval			Residential debt (1950-1962) with 10% confidence interval		
Developing Mediterranean	Low	85%	83%	87%	77%	74%	80%	77%	73%	80%	90%	84%	95%	0%	0%	0%	0%	0%	0%
	Middle	86%	84%	88%	84%	82%	87%	102%	97%	107%	92%	88%	97%	0%	0%	0%	0%	0%	0%
	High	94%	92%	96%	90%	88%	92%	117%	111%	124%	127%	121%	133%	0%	0%	0%	0%	0%	0%
	Self-employed	83%	80%	85%	86%	83%	89%	113%	106%	120%	110%	104%	116%	0%	0%	0%	0%	0%	0%
Developing privatization	Low	73%	70%	75%	74%	71%	77%	104%	96%	113%	86%	78%	94%	0%	0%	0%	0%	0%	0%
	Middle	78%	76%	80%	83%	81%	85%	96%	91%	101%	101%	96%	105%	0%	0%	0%	0%	0%	0%
	High	86%	85%	88%	91%	89%	92%	111%	105%	117%	104%	99%	110%	0%	0%	0%	0%	0%	0%
	Self-employed	65%	60%	71%	90%	88%	93%	100%	89%	112%	100%	93%	106%	0%	0%	0%	0%	0%	0%
Restricted rental	Low	34%	31%	37%	35%	32%	39%	84%	77%	91%	70%	61%	78%	0%	0%	0%	0%	0%	1%
	Middle	58%	56%	60%	63%	61%	65%	101%	98%	103%	83%	81%	86%	0%	0%	1%	1%	1%	1%
	High	72%	70%	74%	80%	78%	82%	112%	109%	115%	105%	102%	109%	1%	1%	1%	1%	1%	2%
	Self-employed	66%	62%	69%	66%	63%	69%	130%	125%	134%	123%	119%	127%	1%	0%	1%	2%	1%	2%
Regulated expansion	Low	67%	64%	70%	66%	62%	70%	66%	62%	70%	66%	62%	71%	0%	0%	0%	1%	1%	1%
	Middle	80%	77%	82%	75%	72%	77%	93%	90%	97%	82%	79%	85%	0%	0%	0%	1%	1%	2%
	High	88%	86%	90%	85%	83%	87%	124%	120%	128%	108%	105%	111%	0%	0%	0%	2%	2%	2%
	Self-employed	86%	82%	89%	89%	86%	91%	120%	114%	127%	117%	111%	123%	0%	0%	0%	2%	2%	3%
Liberal expansion	Low	45%	39%	50%	57%	50%	65%	108%	68%	148%	73%	40%	105%	7%	6%	9%	18%	15%	21%
	Middle	64%	61%	67%	75%	72%	78%	92%	77%	108%	88%	64%	113%	10%	9%	10%	17%	16%	18%
	High	79%	76%	81%	86%	84%	88%	109%	93%	126%	96%	86%	106%	14%	13%	15%	21%	20%	22%
	Self-employed	84%	80%	87%	89%	86%	93%	132%	118%	147%	137%	116%	157%	13%	11%	14%	22%	19%	24%

Table 2: Homeownership rates, housing wealth holdings and residential debts of occupational classes in two cohorts, in different housing wealth accumulation regimes. Source: Share wave 2,3,4 (own computation).